REMARKS

Claims 1 to 5 are now pending.

Applicants respectfully request reconsideration of the present application in view of this amendment.

Claim 1 was rewritten above to further clarify the claimed invention. No new matter was added. A Version Showing Changes Made is attached hereto showing the changes made to claim 1, where underlining indicates added text and square bracketing indicates deleted text.

Claims 1 to 5 were rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,778,987 to Saaski et al. (the "Saaski reference") in view of U.S. Patent No. 5,929,633 to Fischer (the "Fischer reference).

The Saaski reference purportedly concerns an optical measuring device using a spectral modulation sensor having an optically resonant structure. (See Title). The Saaski reference further refers to physical changes induced in the spectral modulation sensor's optically resonant structure by the physical parameter being measured cause microshifts of its reflectivity and transmission curves, and of the selected operating segment(s) thereof being used, as a function of the physical parameter being measured. (See Abstract). The operating segments have a maximum length and a maximum microshift of less than about one resonance cycle in length for unambiguous output from the sensor. (See Abstract).

Claim 1 is directed to a scale for technical devices which are used for high-resolution or ultrahigh-resolution imaging of structures, including:

> a plurality of one of crystalline and amorphous first material layers having a first thickness; and
>
> a plurality of one of crystalline and amorphous second material layers which are distinguishable from the first material layers when imaged using high-resolution or ultrahigh-resolution imaging methods, the second material layers having a second thickness and the first material layers alternating with the second material layers;
>
> at least one of the first and second material layers having a thickness of less than twenty-five nanometers.

In contrast, independent claim 1 includes a plurality of one of crystalline and amorphous first material layers having a first thickness and a plurality of one of crystalline and amorphous second material layers which are distinguishable from the first material layers when imaged using high-resolution or ultrahigh-resolution imaging methods, the second material layers

having a second thickness and the first material layers alternating with the second material layers. The Saaski reference does not teach or suggest a plurality of one of crystalline and amorphous first material layers and a plurality of one of crystalline and amorphous second material layers which are distinguishable from the first material layers when imaged using high-resolution or ultrahigh-resolution imaging methods, the second material layers having a second thickness and the first material layers alternating with the second material layers. The Office Action at page 2 even admits that "Saaski does not disclose chrome being crystalline." Moreover, the Saaski reference refers to its "invention" as including a light source, a light transmission means, a spectral modulation sensor having an optically resonant structure and detection means for converting the output light from the spectral modulation sensor into electrical signals. (Specification, col. 2, lines 4-8). The Saaski reference, according to cites provided by the Office Action, refers to adding a light absorbing and/or reflecting coating to the outer surface of an etch stripped layer which forms the covers for the cavities. (Specification, col. 18, lines 60-65). The light absorbing and/or reflecting coating may be formed by using conventional vacuum deposition techniques to deposit two or more alternating layers of chrome and silicon on the outer surface, and the chrome is depositied first. (Specification, col. 18, line 65 to col. 19, line 4). The purported purpose of the light absorbing and/or reflecting coating is to prevent external light from entering optically resonant structure 21A though its cover 28 and to prevent light transmitted through the optically resonant structure 21A into the cover 28 from reentering the optically resonant structure 21A from the cover 28. (Specification, lines 1-10). The Saaski reference does not

Accordingly, the Saaski reference does not render obvious claim 1, and withdrawal of the rejection of claim 1 under 35 U.S.C. § 103(a) is respectfully requested.

The Fischer reference cannot cure the deficiencies of the Saaski reference because the Fischer reference is not believed to be prior art to the present above-identified application. The Fischer reference states on-its-face that it has U.S. filing date of November 29, 1997 and a priority German application filing date of November 29, 1996. The present above-identified application was filed in the U.S. on December 28, 2000 as a divisional of U.S. Patent Application Serial No. 08/795,622, filed on February 6, 1997, having priority to German Patent Application No. 196 04 348 filed on February 7, 1996. Accordingly, the Fischer reference cannot serve as a prior art reference to the present above-identified application. Regardless, Applicants respectfully submit that even if the Fischer reference could serve as a prior art reference, it would not, alone or in combination with the Saaski

reference render obvious claim 1.

Accordingly, the cited reference(s), alone or in combination, do not render obvious claim 1.

Since claims 2 to 5 depend, directly or indirectly from claim 1, claims 2 to 5 are allowable for at least the same reasons as claim 1.

Moreover, to reject a claim as obvious under 35 U.S.C. § 103, the prior art must disclose or suggest each claim element and it must also provide a motivation or suggestion for combining the elements in the manner contemplated by the claim. (See Northern Telecom, Inc. v. Datapoint Corp., 908 F.2d 931, 934 (Fed. Cir. 1990), cert. denied, 111 S. Ct. 296 (1990); In re Bond, 910 F.2d 831, 834 (Fed. Cir. 1990)).

The Federal Circuit in the case of In re Kotzab has made plain that even if a claim concerns a "technologically simple concept" -- which is not even the case here, there still must be some finding as to the "specific understanding or principle within the knowledge of a skilled artisan" that would motivate a person having no knowledge of the claimed subject matter to "make the combination in the manner claimed", stating that:

> In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. **With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed.** In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting [the] claims . . . under 35 U.S.C. Section 103(a) over Evans.

(See In re Kotzab, 55 U.S.P.Q.2d 1313, 1318 (Federal Circuit 2000) (citations omitted, italics in original, emphasis added)). Here again, there have been no such findings. Instead, the Saaski reference refers to providing several advantages simultaneously, such as enabling longer operating segments and microshifts to be used for greater sensitivity or detection range, and also eliminating certain errors caused by fluctuations in input light intensity or by changes in light intensity caused by optical fiber bending and optical fiber connectors. (See Saaski reference Abstract). The present above-identified application is directed to

manufacturing and calibrating a scale in the nanometer range, using material which differ particularly with respect to their compositions which make them easily distinguishable from one another by their contrast when they are images using high-resolution or ultrahigh-resolution imaging methods. (present above-identified Specification, pages 6-7).

No motivation or suggestion for combining the elements in the manner contemplated by claim 1 is shown in the Saaski reference.

Accordingly, it is respectfully submitted that the rejection of claims 1 to 5 under 35 U.S.C. § 103(a) over the Saaski reference in view of the Fischer reference (which cannot be used as prior art here) should be withdrawn.

CONCLUSION

In view of all of the above, it is believed that the rejections of claims 1 to 5, under 35 U.S.C. § 103(a) have been obviated, and that all currently pending claims 1 to 5 are allowable. It is therefore respectfully requested that the rejections be reconsidered and withdrawn, and that the present application issue as early as possible.

If it would further allowance of the present application, the Examiner is invited to contact the undersigned at the contact information shown below.

Respectfully Submitted, (By: Linda M. Saltiel Reg. No. 47084)

Dated: 7/17/02

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VERSION SHOWING CHANGES MADE

Application Serial No. 09/750,837 **Attorney Docket No. 2345/17A**

IN THE CLAIMS:

Please amend without prejudice claim 1 as follows:

1. (Amended) A scale for technical devices which are used for high-resolution or ultrahigh-resolution imaging of structures, the scale comprising:

a plurality of one of crystalline [or] and amorphous first material layers having a first thickness; and

a plurality of one of crystalline [or] and amorphous second material layers which are distinguishable from the first material layers when imaged using high-resolution or ultrahigh-resolution imaging methods, the second material layers having a second thickness and the first material layers alternating with the second material layers;

at least one of the first [or] and second material layers having a thickness of less than twenty-five nanometers.